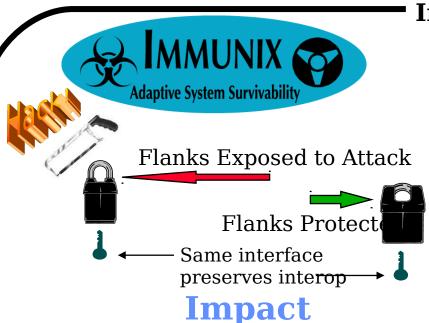
Immunix



Security Bug Tolerance

- •system survives *despite* vulnerabilities
- •Real Applicability
 - •enhance survivability of existing systems Stack G
 - •thousands of users
- Working Technologies
 - StackGuard
- protects programs from stack smashing attack, the most common form of attack
- *without* having to fix the vulnerabilities
- SubDomain
- •uses security information to *enhance* Der Oregon Graduate Institute

New Ideas

- Systematic System Diversification
 - diversify interfaces and implementations
- Redundant Security Checks
 - •restrict actions with Synthetix quasi-invariants
- Adaptive Response to Attack
 - •remove vulnerable, convenient servic Schedule retain critical, hardened

protected system multiple defenses diversity

experiments

adaptive

management

morphing file system

SubDomain

program

confinement kernel

prefetching security

Calton Pu Year 1